

WHAT is CLAIMED.

- 1). A device for mounting and dismounting tires of wheels positioned on a wheel support of a tire changing machine, in which tool groups are supported and actuated by tool-bearing arms arranged above and below the wheel support and being vertically translatable with respect to lateral columns for anchoring and support, wherein at least one of the tool groups comprises at least an extractor first tool comprising a cylindrical stem having a curved end which cylindrical stem is housed rotatably in a support seating constrained to one of the tool-bearing arms and is actuated in order to introduce the curve end between a rim and a tire, another end of the stem being connected to an actuator for rotating the stem.
- 2). The device of claim 1, wherein a rotation of the stem is made over an angle which is sufficient to bring the curved edge, once inserted between rim and tire, into a hooking position with a bead of the tire.
- 3). The device of claim 2, wherein an axis of rotation of the stem of the extractor first tool is arranged in a skewed position with respect to an axis of rotation of the wheel.
- 4). The device of any one of the preceding claims, wherein at least one of the tool groups comprises a second tool comprising a lever with an appendix at an end thereof, which appendix is curved towards an outside of the wheel, and which is provided with a rectangular first portion destined to engage with the bead during a mounting operation, and a circular second portion which is coplanar to the rectangular first portion and destined to push the bead towards

an inside area of the rim while the tire is rotated by the wheel support.

5). The device of any one of the preceding claims, wherein the wheel support is provided with a self-centring blocking device of the rim, a positioning thereof being automatically obtained according to a diameter of the wheel, the tool-bearing arms arranged below and above the wheel support being radially aligned with respect to the self-centring device.

6). The device of any one of the preceding claims, wherein the tool-bearing arm arranged below the wheel support supports an upwards-directed L-shaped tool having an upper end which is slightly curved towards an outside of the wheel, the L-shaped tool being translated parallel to an axis of the wheel in proximity of an edge of the rim.

7). The device of claim 6, wherein the L-shaped tool is used to push the tire upwards while rotating, so that a dismounting operation thereof from the rim is completed after extraction of the upper bead, the L-shaped tool being used in a mounting operation of a lower bead of the tire internally of the rim, by hooking the lower bead with the curved upper end and displacing the lower bead downwards while the wheel support is rotated.